

No.

200500270



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Seminis Vegetable Seeds, Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOMATO

'FIR 18-2051'

*In Testimony Whereof, I have hereunto set my hand  
and caused the seal of the Plant Variety  
Protection Office to be affixed at the City of  
Washington, D.C. this third day of November, in  
the year two thousand and six.*

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

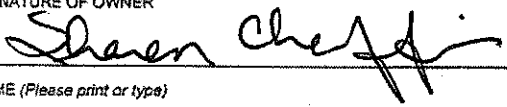


U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>Seminis Vegetable Seeds, Inc.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME <b>FIR 18-2051</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  <b>2700 Camino del Sol Oxnard, CA 93030-7967</b>		5. TELEPHONE (include area code)  <b>805 647 1572</b>		FOR OFFICIAL USE ONLY PVPO NUMBER <b>200500270</b>	
6. FAX (include area code)  <b>805 918 2545</b>		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>California</b>	
9. DATE OF INCORPORATION <b>04-Jun-1962</b>		10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)  <b>Sharen Chaffin Seminis Vegetable Seeds, Inc. 37437 State Hwy 16 Woodland CA 95616</b>		11. FILING AND EXAMINATION FEES: <b>\$ 3,652.00</b> DATE <b>6/6/05</b> CERTIFICATION FEE: <b>\$ 768.00</b> DATE <b>9/22/06</b>	
12. TELEPHONE (include area code) <b>530 669 6172</b>		13. FAX (include area code) <b>530 666 4426</b>		14. CROP KIND (Common Name) <b>Tomato</b>	
15. GENUS AND SPECIES NAME OF CROP <b>Lycopersicon esculentum</b>		16. FAMILY NAME (Botanical) <b>Solanaceae</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)			
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)			
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 		SIGNATURE OF OWNER			
NAME (Please print or type) <b>Sharen Chaffin</b>		NAME (Please print or type)			
CAPACITY OR TITLE <b>Specialist</b>		DATE <b>6-3-05</b>		CAPACITY OR TITLE	
				DATE	

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initiated and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

#### ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice*, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

US: July 2004 -- Hybrid PINNACLE

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

CL: May 19, 2004; Certificate # 23/04; NZ: Sept. 30, 2004 -- Appl. #TOM002

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 8.0a. Replaces STD-470 (02-99) which is obsolete.

**EXHIBIT A****The Origin and Breeding of FIR 18-2051**

- The parent line FIR 18-2051 was developed at Seminis - Latina Research Station (ITALY) through positive mass selection followed by line selection out of the offspring of commercial variety 'Luisa' from Hazera. This germplasm was known for its earliness and its adaptation to set fruits under hot conditions. The F2 population was planted in July 1995 (100 plants) in the greenhouse and five plants were selected for hot set ability and earliness and which were adapted to an open field environment.
- In July 1996 the five F3 lines (40 plants each) were planted in the greenhouse under the stake numbers 96 LT 6064, 96 LT 6065, 96 LT 6066, 96 LT 6067 and 96 LT 6068. Three single plant selections have been taken from 96 LT 6064 and the collected seeds were submitted in December 1996 for the main pathology disease tests.
- In 1997 the three F4 lines were planted under the same conditions as above under the stake numbers 97 LT 5794, 97 LT 5795 and 97 LT 5798. The best performing line in average for hot set ability and earliness was 97 LT 5794. Five single plant selections were taken and submitted again to ToMV, Fusarium wilt race 1 and Verticillium wilt disease tests.
- In July 1998 the five F5 lines were planted under the stake numbers 98LT 4511, 4512, 4513, 4514 and 4515 to fix the horticultural characteristics and the three disease resistances. Only 98 LT 4511 has been selected and harvested in single plant selection (15 plants) for a progeny test.
- In July 1999 the fifteen F6 lines were planted and the most uniform lines were sent to the company's Pathology Dept to test again for ToMV, Fusarium wilt 1 and Verticillium disease resistances.
- In 2001 the fixed line was sent to the company's Foundation Seed Dept under the code FIR 18-2051 and claimed resistant to ToMV, Fusarium wilt race 1 and Verticillium wilt.
- Subsequently FIR 18-2051 has been grown for two cycles by the Foundation seed dept in Honselersdijk (The Netherlands) and declared uniform and stable. The Pathology Dept. verified the disease resistances claimed.

The main selection criteria were Earliness, Hot-set ability and disease resistances.

The variety is uniform and stable within commercially acceptable limits. As is true with other tomato varieties, a small percentage of variants can occur within commercially acceptable limits for almost any characteristic during the course of repeated multiplication. However no variants were observed during the two years in which the variety was observed to be uniform and stable.

Revised: 23-August-06

**EXHIBIT B****Novelty statement concerning FIR 18-2051**

FIR 18-2051 is described as a parent line to produce Fresh Market Tomato hybrids. The novelty of FIR 18-2051 consists in its ability to set easily in a protected environment and in open field conditions under high temperature combined with its relative earliness. In these stressed conditions the fruits stay firm, with no cracking and showing a dark red, brilliant color at ripe stage.

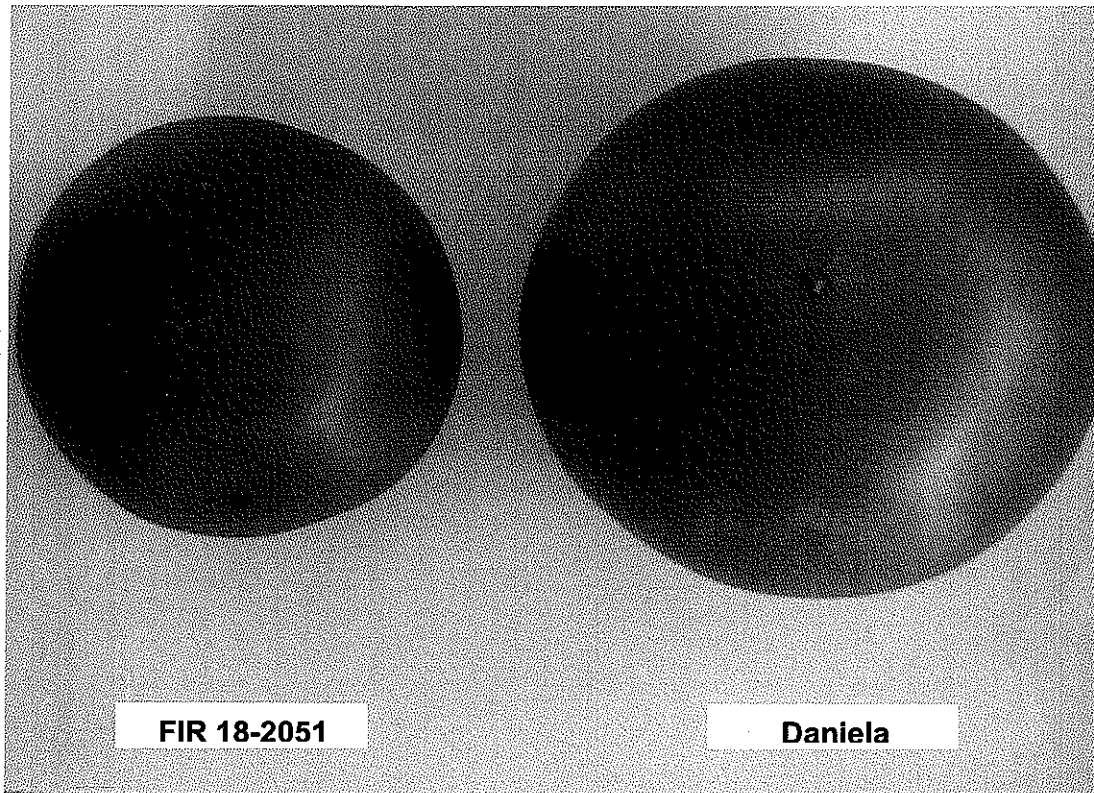
To our knowledge, the variety most closely resembling the candidate variety is 'Daniela' (Hazera Seeds). The characteristics that most readily distinguish the two varieties, but may not be limited too, are

- Shoulder color: the fruits of FIR 18-2051 are uniform green (RHS 143A) whereas the fruits of 'Daniela' are non-uniform dark green (RHS 141A).



(Continued)

- Fruit color: full ripe the fruits of FIR 18-2051 have a dark brilliant red color (RHS 45A) whereas the fruits of 'Daniela' are light red (RHS N34B).



- Disease Resistance: FIR 18-2051 is Fusarium Wilt race 2 susceptible whereas Daniela is resistant.

Revised: 17-August-06

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20706

FORM APPROVED: OMB NO. 0581-001

EXHIBIT C  
(Toma.

OBJECTIVE DESCRIPTION OF VARIETY  
TOMATO (*Lycopersicon esculentum* Mill.)

NAME OF APPLICANT(S)

Seminis Vegetable Seeds, Inc.

TEMPORARY DESIGNATION

VARIETY NAME

FIR 18-2051

ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code)

2700 Camino del Sol  
Oxnard, CA 93030

FOR OFFICIAL USE ONLY

PVPO NUMBER

200500270

Choose responses for the following characters which best fit your variety. Complete this form as fully as possible for best characterization of the variety. When a single quantitative value is requested (e.g., fruit weight), your answer should be the mean of an adequate-sized, unbiased sample of plants. Use leading zeroes when necessary (e.g., 009 or 0083), etc.). The applicant variety should be compared with at least one well-known standard check variety of the same type (see list of recommended check varieties below), and grown in the same trials. The characters on this form should be described from plants grown under optimal conditions of culture for the variety. Indicate by a check whether trial data are from greenhouse YES or field NO planting. Trials direct-seeded NO or transplanted YES; stakes YES or unstaked NO. Give locations and dates of seedling and transplanting here:

LATINA RESEARCH STATION OF SEMINIS VEGETABLE SEEDS-ITALY  
JANUARY, 20, 2005

COMPARISONS SHOULD BE MADE TO ONE OR MORE CHECK VARIETIES IN THE FOLLOWING LIST. IF AT ALL POSSIBLE, ENTER THE NUMBER OF THE CHECK IN BOXES WHERE IDENTITY OF CHECK IS REQUESTED.

1 = Ace 55 VF  
2 = Campbell 37  
3 = Chico III  
4 = Flora Dade  
5 = Florida MH-1  
6 = Heinz 1350

7 = Homestead 24  
8 = Marglobe  
9 = Munetta  
10 = New Yorker  
11 = Ohio MR-13  
12 = Red Cherry Large

13 = Red Rock  
14 = Roma VF  
15 = Rutgers  
16 = Sunray  
17 = Tropic  
18 = UC 82

19 = VF 134  
20 = US 28  
21 = VF 145 & 7879  
22 = Other (Specify)

DANIELA (HAZERA)

## 1. SEEDLING:

2

Anthocyanin in hypocotyl of 2-15 cm. seedling: 1 = Absent 2 = Present

1

Habit of 3rd week old seedling: 1 = Normal 2 = Compact

## 2. MATURE PLANT (at maximum vegetative development):

1

Growth:

1 = Indeterminate

2 = Determinate

200 Cm. Height

2

Form:

1 = Low, open

2 = Normal

3 = Compact

4 = Dwarf

5 = Brachytic

2

Size of canopy (compared to others of similar type):

1 = Small

2 = Medium

3 = Large

1

Habit:

1 = Sprawling (decumbent)

2 = Semi-erect

3 = Erect ("Dwarf Champion")

## 3. STEM:

2

Branching:

1 = Sparse ("Breton's Solid Red", "Fireball")

2 = Intermediate ("Westover")

3 = Profuse ("UC 82")

1

Branching at cotyledonary or first leafy node:

1 = Present

2 = Absent

3

No. of nodes below the first inflorescence:

1 = 1-4

2 = 4-7

3 = 7-10

4 = 10 or more

3

No. of nodes between early (1st - 2nd, 2nd - 3rd) inflorescences.

3

No. of nodes between later-developing inflorescences.

3

Pubescence on younger stems:

1 = Smooth (no long hairs)

3 = Moderately hairy

2 = Sparsely hairy (scattered long hairs)

4 = Densely hairy or woolly

## 4. LEAF (mature leaf beneath the 3rd inflorescence):

1

Type:

1 = Tomato 2 = Potato ("Trip-L-Crop")

2

Morphology (choose illustration on pg. 5 of this form that is most similar)

2

Margins of major leaflets:

1 = Nearly entire

2 = Shallowly toothed or scalloped

3 = Deeply toothed or cut, esp. towards base

1

Marginal rolling or wilting:

1 = Absent

2 = Slight

3 = Moderate

4 = Strong

2

Onset of leaflet rolling:

1 = Early season

2 = Mid-season

3 = Late season

03-JAN-1996 06:29 FROM

TO 00015306664426

P.03/13

178-205

2

## 4. LEAF (mature leaf beneath the 3rd inflorescence - continuing):

- 1 Surface of major leaflets: 1 = Smooth 2 = Rugose (bumpy or veiny)
- 2 Pubescence: 1 = Smooth (no long hairs) 2 = Normal 3 = Hirsute 4 = Woolly

## 5. INFLORESCENCE (make observations on 3rd inflorescence):

- 2 Type: 1 = Simple 2 = Forked (2 major axes) 3 = Compound (much branched)
- 06 Number of flowers in inflorescence, average
- 1 Leafy or "running" inflorescences: 1 = Absent 2 = Occasional 3 = Frequent

## 6. FLOWER:

- 1 Calyx: 1 = Normal, lobes awl-shaped 2 = Macrocalyx, lobes large, leaflike 3 = Fleshy
- 1 Calyx lobes: 1 = Shorter than corolla 2 = Approx. equalling corolla 3 = Distinctly longer than corolla
- 1 Corolla color: 1 = Yellow 2 = Old gold 3 = White or tan
- 2 Style pubescence: 1 = Absent 2 = Sparse 3 = Dense
- 1 Anthers: 1 = All fused into tube 2 = Separating into 2 or more groups at anthesis
- 1 Fecundation (1st flower of 2nd or 3rd inflorescence): 1 = Absent 2 = Occasionally present 3 = Frequently present

## 7. FRUIT (3rd fruit of 2nd or 3rd cluster): For the first 5 characters below, match your variety with the most similar illustration on pg. 5 of this form.

- 2 Typical fruit shape: 1 Shape of transverse section: 1 Shape of stem end: 1 Shape of pith scar:
- 2 Shape of blossom end:

- 1 Abscission layer: 1 = Present (pedicellate) 2 = Absent (jointless) 1 Point of detachment of fruit at harvest: 1 = At pedicel joint 2 = At calyx attachment

10 mm length of pedicel (from joint to calyx attachment)

050 mm length of mature fruit (stem axis)

055 mm diameter of fruit at widest point

140 g weight of mature fruit

060 mm length, check var. no.

070 mm diameter, check var. no.

180 g weight, check var. no.

22

22

22

- 2 No. of locules: 1 = Two 2 = Three and four 3 = Five or more
- 1 Fruit surface: 1 = Smooth 2 = Slightly rough 3 = Moderately rough or ribbed
- 3 Fruit base color (mature-green stage): 1 = Light green ("Lana", VF145-FE1) 2 = Light grey-green ("Westover") 3 = Apple or medium green ("Heinz 1439 VF") 4 = Yellow green 5 = Dark green
- 1 Fruit pattern (mature-green stage): 1 = Uniform green 2 = Green-shouldered 3 = Radial stripes on sides of fruit
- Shoulder color if different from base: 1 = Dark green 2 = Grey green 3 = Yellow green
- 5 Fruit color, full-ripe: 1 = White 2 = Yellow 3 = Orange 4 = Pink 5 = Red 6 = Brownish 7 = Greenish 8 = Other (Specify)
- 3 Flesh color, full-ripe: 1 = Yellow 2 = Pink 3 = Red/Crimson 4 = Orange 5 = Other (Specify)
- 1 Flesh color: 1 = Uniform 2 = With lighter and darker areas in walls
- 3 Locular gel color at table-ripe fruit: 1 = Green 2 = Yellow 3 = Red
- 2 Ripening: 1 = Blossom-to-stem end 2 = Uniform



## 7. FRUIT (3rd fruit of 2nd or 3rd cluster): Continued

<input checked="" type="checkbox"/> 2 Ripening:	1 = Inside out	2 = Uniformly	3 = Outside in	<input checked="" type="checkbox"/> 1 Stem scar size:	1 = Small ('Roma')
<input checked="" type="checkbox"/> 2 Epidermis color:	1 = Colorless	2 = Yellow		2 = Medium (' Rutgers')	3 = Large
<input checked="" type="checkbox"/> 1 Epidermis:	1 = Normal	2 = Easy-peel		<input checked="" type="checkbox"/> 1 Core:	1 = Coreless (absent or smaller than 6-6 mm)
<input checked="" type="checkbox"/> 2 Epidermis texture:	1 = Tender	2 = Average	3 = Tough	2 = Present	
<input checked="" type="checkbox"/> 3 Thickness of pericarp	1 = Under 3 mm	2 = 3-6 mm	3 = 6-9 mm	4 = Over 9 mm	
		<input checked="" type="checkbox"/> 4 Thickness of pericarp, check agr. no.	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 2	

## 8. RESISTANCE TO FRUIT DISORDERS (Use code: 0 = Unknown, 1 = Susceptible, 2 = Resistant)

<input checked="" type="checkbox"/> 2 Blossom end rot	<input checked="" type="checkbox"/> 2 Cuts	<input checked="" type="checkbox"/> 0 Fruit rot	<input checked="" type="checkbox"/> 2 Zippering
<input checked="" type="checkbox"/> 2 Blotchy ripening	<input checked="" type="checkbox"/> 2 Cracking, concentric	<input checked="" type="checkbox"/> 2 Gold fleck	<input type="checkbox"/> Other (Specify)
<input checked="" type="checkbox"/> 2 Bursting	<input checked="" type="checkbox"/> 2 Cracking, radial	<input checked="" type="checkbox"/> 2 Graywall	

## 9. DISEASE AND PEST REACTION (Use code: 0 = Not tested, 1 = Susceptible, 2 = Resistant). NOTE: If claim of novelty is based wholly or in substantial part upon disease resistance, trial data should be appended. These should specify the method of testing, the reaction of the application variety, and reaction of well-known check varieties grown in the trial (identified by name).

## VIRAL DISEASES:

<input checked="" type="checkbox"/> 0 Cucumber mosaic	<input checked="" type="checkbox"/> 2 Tobacco mosaic, Race 0	<input checked="" type="checkbox"/> 0 Tobacco mosaic, Race 2
<input checked="" type="checkbox"/> 0 Curly top	<input checked="" type="checkbox"/> 2 Tobacco mosaic, Race 1	<input checked="" type="checkbox"/> 1 Tomato spotted wilt
<input checked="" type="checkbox"/> 0 Potato-Y virus	<input checked="" type="checkbox"/> 2 Tobacco mosaic, Race 2	<input checked="" type="checkbox"/> 0 Tomato yellow
<input type="checkbox"/> Other virus (Specify)		

## BACTERIAL DISEASES:

<input checked="" type="checkbox"/> 0 Bacterial canker ( <i>Corynebacterium michiganense</i> )	<input checked="" type="checkbox"/> 0 Bacterial spot ( <i>Xanthomonas vesicatorum</i> )
<input checked="" type="checkbox"/> 0 Bacterial soft rot ( <i>Erwinia carotovora</i> )	<input checked="" type="checkbox"/> 0 Bacterial wilt ( <i>Pseudomonas solanacearum</i> )
<input checked="" type="checkbox"/> 0 Bacterial speck ( <i>Pseudomonas tomatos</i> )	<input type="checkbox"/> Other bacterial disease (Specify)

## FUNGAL DISEASES:

<input checked="" type="checkbox"/> 0 Anthracnose ( <i>Colletotrichum gloeosporium</i> )	<input checked="" type="checkbox"/> 0 Leaf mold, Race 1 ( <i>Cylindrocladium fulvum</i> )
<input checked="" type="checkbox"/> 0 Brown root rot or corky root ( <i>Pyrenopeziza lycopersici</i> )	<input checked="" type="checkbox"/> 0 Leaf mold, Race 2
<input checked="" type="checkbox"/> 0 Collar rot or stem canker ( <i>Alternaria solani</i> )	<input checked="" type="checkbox"/> 0 Leaf mold, Race 3
<input checked="" type="checkbox"/> 0 Early blight defoliation ( <i>Alternaria solani</i> )	<input type="checkbox"/> Leaf mold, other races (Specify)
<input checked="" type="checkbox"/> 2 Fusarium wilt, Race 1 ( <i>F. oxysporum f. lycopersici</i> )	<input checked="" type="checkbox"/> 0 Nematode spot ( <i>Alternaria tomatos</i> )
<input checked="" type="checkbox"/> 1 Fusarium wilt, Race 2	<input checked="" type="checkbox"/> 0 Septoria leafspot ( <i>S. lycopersici</i> )
<input checked="" type="checkbox"/> 0 Fusarium wilt, Race 3	<input checked="" type="checkbox"/> 0 Target leafspot ( <i>Corynespora cassiicola</i> )
<input checked="" type="checkbox"/> 0 Gray leaf spot ( <i>Stemphylium spp.</i> )	<input checked="" type="checkbox"/> 2 Verticillium wilt, Race 1 ( <i>V. albo-atrum</i> )
<input checked="" type="checkbox"/> 0 Late blight, Race 0 ( <i>Phytophthora infestans</i> )	<input checked="" type="checkbox"/> 0 Verticillium wilt, Race 2
<input checked="" type="checkbox"/> 0 Late blight, Race 1	<input type="checkbox"/> Other fungal disease
	<input type="checkbox"/> Other fungal disease

## 9. DISEASE AND PEST REACTION (Use code: 0 = Not tested, 1 = Susceptible, 2 = Resistant - Continued)

## INSECTS AND PESTS:

- ☐ Colorado potato beetle (*Leptinotarsa decemlineata*) ☐ Tomato hornworm (*Manduca quinquemaculata*)
- ☐ Southern root knot nematode (*Meloidogyne incognita*) ☐ Tomato fruitworm (*Melipotis zea*)
- ☐ Spider mites (*Tetranychus* spp.) ☐ Whitefly (*Trialeurodes vaporariorum*)
- ☐ Sugar beet army worm (*Spodoptera exigua*) ☐ Other (Specify) \_\_\_\_\_
- ☐ Tobacco flea beetle (*Epicauta hirsuticornis*)

## POLLUTANTS:

- ☐ Ozone ☐ Sulfur dioxide ☐ Other (Specify) \_\_\_\_\_

## 10. CHEMISTRY AND COMPOSITION OF FULL-RIPE FRUITS: Suggested test methods may be found in "Tomato Products," 5th ed., National Canners Assn., Bull. 27-L. Please specify test methods or give a reference to methods used. Fill in table below with values for the new variety and for at least one well-known check variety of similar type grown in the same trial. Specify names or numbers of check varieties.

	SUBMITTED VARIETY	Check Variety	Check Variety	Check Variety
pH				
Titratable acidity, as % citric				
Total solids (dry matter, seeds and skin removed)				
Soluble solids, as °Brix				

## 11. PHENOLOGY: Express length of developmental stages either as calendar days or as heat units (growing degree days), in degrees Celsius. If heat units are used, indicate the base temperature used in their calculation here \_\_\_\_\_ °C. See paper by Warnock under "References" for method. Give comparative data for at least one check variety; identify checks by name or by number from table on page 1.

	APPLICATION VARIETY	Check variety	Check variety	Check variety
Seeding to 50% flower (1 open flower on 50% of plants)	66 DAYS			
Seed to once-over harvest (if applicable)	NOT APPLICABLE			

- ☐ Fruiting season: 1 = Long ("Marglobe") 2 = Medium ("Whitover") 3 = Short, concentrated ("VF 145")  
4 = Very concentrated ("UC 82")
- ☐ Relative maturity in areas tested: 1 = Early 2 = Medium early 3 = Medium  
4 = Medium late 5 = Late 6 = Variable (if relative maturity is known to differ by location or environment, please explain on separate sheet).

## 12. ADAPTATION: If more than one category applies, list all in rank order.

- ☐ Culture: 1 = Field 2 = Greenhouse
- ☐ Principal use(s): 1 = Home garden 2 = Fresh market 3 = Whole-pack canning  
4 = Concentrated products 5 = Other (Specify) \_\_\_\_\_
- ☐ Machine harvest: 1 = Not adapted 2 = Adapted
- Region to which adaptation has been demonstrated:  
1 = Northeast 2 = Mid Atlantic 3 = Southeast 4 = Florida  
5 = Great Plains 6 = Southcentral 7 = Inermountain West 8 = Northwest  
9 = California: Sacramento and Upper San Joaquin Valley  
10 = California: Coastal areas 11 = California: Southern San Joaquin Valley & deserts

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  Seminis Vegetable Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  FIR 18-2051
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 2700 Camino del Sol Oxnard, CA 93030-7967	5. TELEPHONE (include area code)  805 647 1572	6. FAX (include area code)  805 918 2545
7. PVPO NUMBER  200500270		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

The variety named in this application was developed by the Seminis Vegetable Seeds, Inc., employee (breeder) named below. By agreement between employee and Seminis Vegetable Seeds, Inc., all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.

Employee (Breeder): Rita Maria Mogno

Site Location: Latina, IT

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

EXHIBIT F  
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) Seminis Vegetable Seeds, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 37437 State Highway 16 Woodland, CA 95695	TEMPORARY OR EXPERIMENTAL DESIGNATION  VARIETY NAME FIR 18-2051
NAME OF OWNER REPRESENTATIVE (S) Carol L. Miller	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 37437 State Highway 16 Woodland, CA 95695	FOR OFFICIAL USE ONLY  PVPO NUMBER 2005 00270

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Signature

Carol L. Miller

Date

16 August 2006